

### **(57) Abstract**

The invention relates to an arrangement for matching transmitting antennas in mobile stations, especially in mobile stations applying new transmission technologies, as well as to an arrangement for protecting a power amplifier feeding an antenna. In order to match an antenna (260), the strength of the field (re) reflected from the antenna is continually measured. The measurement data is used in controlling an antenna matching circuit (250) so that the strength of the reflected field is minimized. The measurement is carried out using a circulator (220) which also provides isolation, i.e. prevents the field reflected from the antenna from propagating back to the power amplifier (PA). In a multi-band apparatus, the band in use is also taken into account in the matching. The structure according to the invention saves space, as the number of relatively large components becomes smaller. Furthermore, the attenuation of the transmission path to the antenna is reduced compared to corresponding structures according to the prior art.

Fig. 2